U.S. FISH AND WILDLIFE SERVICE - SPOTLIGHT SPECIES ACTION PLAN

Common Name: Sacramento Prickly Poppy

Scientific Name: *Argemone pleiacantha* ssp. *pinnatisecta*, G.B. Ownbey

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Species Information:

Status: Endangered

Recovery Priority Number: 3
The draft 5-year review for the Sacramento prickly poppy (poppy), to be finalized in 2009, recommends a change in Recovery Priority Number to 3C, incorporating conflict based on past and current unresolved impacts of livestock grazing and trampling on the conservation of the poppy. There may also be increased conflicts that develop in the foreseeable future between people's demands for water from Sacramento Mountain springs in poppy habitat and the water required by the plant.

Recovery Plan: The Sacramento Prickly Poppy (*Argemone pleiacantha* ssp. *pinnatisecta*) Recovery Plan (USFWS 1994)

Most Recent 5-Year Review: A draft 5-year review is currently being finalized, due in 2009.

Other: The most recent biological opinion on the poppy was issued by the New Mexico Ecological Services Field Office on April 25, 2008. The most recent report summarizing monitoring results for the poppy was completed in October, 2008, by Phil Tonne of the New Mexico Natural Heritage Program. The final rule to list the poppy also contains information about its biology, habitat requirements, abundance, and threats (54 FR 35302–35305; 24 August 1989).

Threats: The habitat, abundance, and distribution of the poppy are threatened by drought, livestock grazing, floods, water withdrawal, off-road vehicles, and ongoing surface-disturbing activities, such as road and pipeline maintenance (factor A). Regarding the threat of disease to the poppy, a fungal mold species of *Alternaria,* which is a known plant pathogen, has been

observed to intermittently cause disease in poppy plants throughout the subspecies' range (factor C).

Currently, the poppy's baseline condition is continuing to deteriorate, with a steady decline in the abundance and distribution of the poppy throughout its range. The subspecies' limited distribution, small population size, and the decreased genetic diversity that may result from population decline are additional threats capable of extirpating poppy sites (factor E).

Target: Prevent species extinction by slowing the decline in poppy numbers and distribution, and alleviating the threats of livestock trampling and grazing and accidental herbicide application for some localities. Given that the core population center has experienced 74 percent reduction in poppy plants over the past 20 years, accelerated and improved management actions that address the threats and needs of the poppy are necessary to alleviate the poppy's danger of extinction within the foreseeable future throughout all or a significant portion of its range.

Measure: Over the next 5 years, reintroduce poppy plants into 2 to 3 of the 10 historically known sites, with the goal of increasing poppy numbers by 10 percent in suitable habitat; address application of herbicides during highway maintenance activities, with the goal of minimizing this threat to the poppy along highways maintained by the State of New Mexico; and continue to address livestock management, with the goal of minimizing livestock threats in the Sacramento Allotment, where the largest known concentration of poppies is located.

Actions:

Action 1. Reach consensus among all responsible parties on a monitoring plan for the poppy. An agreed-upon monitoring plan should improve cooperation and collaboration among the parties to implement recovery actions and meet the following objectives (factors A, C, D, and E):

1. Monitor existing populations using a standardized methodology, such that populations can be consistently tracked over time.
2. Expand monitoring to previously occupied canyon systems and potential habitat.
3. Use both on-the-ground and modeling methodologies to examine canyon features for poppy habitat. In models, incorporate use of physical characteristics, such as elevation and slope, to determine potentially occupied canyons.

Action 2. Develop a highway maintenance plan to protect poppy habitat along Highway 82 in Otero County from accidental, yet recurring injury and mortality from highway vegetation removal by herbicides. The plan would include permanent signs and buffers around potential and occupied poppy habitat. Finalize a Memorandum of Agreement among the New Mexico Department of Transportation, Lincoln National Forest, and the Service to implement this plan (factors A and D).

Action 3. Survey and identify areas that may be suitable for seeding and reintroduction of seedlings or adult plants (factors A and E).

Action 4. Provide water to planted and seeded areas. Water improvements may include installing irrigation pipes, tapping into the existing pipeline, and/or repairing already existing water infrastructure. To further ensure the success of poppy reintroductions, livestock exclosures will be constructed around the planted sites where needed (factors A and C).

Action 5. Reintroduce three life stages of the poppy−seeds, seedlings, and adult plants−into two to three suitable, easily accessible canyons to boost abundance and reduce potential for genetic inbreeding. Study the collection, cold-stratification, and germination of seeds and growth of resulting seedlings into adults. Once a recovery garden population is established, cuttings from adult plants could also be experimentally reintroduced into potentially suitable habitat (factor E).

Action 6. Monitor the areas where poppies are transplanted to determine if the above activities are successful. Planted individuals and seeded areas will be marked, mapped, and revisited repeatedly in subsequent years. Information gained through monitoring, such as rates of spread, survival rates, seedling success, watering regime, and type of material introduced, will enhance understanding of the conditions needed for poppy recovery (factors A and E).

Action 7. Continue to address livestock management on the Sacramento Allotment of the Lincoln National Forest. Alamo and Caballero Canyons, located in the Sacramento Allotment, contain the majority of the remaining poppies and are grazed by livestock from November 1 to May 15. Minimization measures include developing a livestock water source outside of poppy habitat and exclusion fencing for poppy populations (factors A and C).

Action	Threat Addressed	Responsible Parties	Estimated Cost
Develop a monitoring plan	A, C, D, E	USFWS, New Mexico Natural Heritage Program, USFS, New Mexico Division of Forestry	$10,000
Develop a highway maintenance plan	A, D	USFWS, USFS, New Mexico Department of Transportation	$10,000
Survey and identify areas that may be suitable for seeding and reintroduction	A, E	USFS, USFWS	$15,000
Provide water to planted and seeded areas	A, C	USFS	$40,000
Reintroduce three life stages into two to three canyons	E	USFS, Rio Grande Botanical Garden, New Mexico Natural Heritage Program, New Mexico Division of Forestry, USFWS	$45,000
Monitor the areas where poppies are transplanted	A, E	USFS, USFWS	$25,000
Continue to address livestock management on the Sacramento Allotment	A, C	USFS, USFWS	$50,000
Total estimated cost for all actions over 5 years			$195,000

Role of other agencies: In coordination with the New Mexico Ecological Services Field Office, several agencies are taking an active role in furthering the goals of the recovery plan, such as the New Mexico Division of Forestry, New Mexico Natural Heritage Program, U.S. Forest Service, New Mexico Department of Transportation, and the Rio Grande Botanical Garden. There is potential for more involvement from the City of Alamogordo, Otero County Commissioners, New Mexico State University, and the Bureau of Land Management. All parties have the capacity to be involved in Action 1, with the New Mexico Ecological Services Field Office, New Mexico Natural Heritage Program, U.S. Forest Service, and New Mexico Division of Forestry writing the monitoring protocols. The New Mexico Department of Transportation has committed to the implementation of Action 2, along with the U.S. Forest Service and the New Mexico Ecological Services Field Office. The Lincoln National Forest has proposed to increase and expand existing poppy populations by the reintroduction of individual plants into suitable areas, and will be involved in Actions 3, 4, 5, 6, and 7. The Rio Grande Botanical Garden in Albuquerque and Phil Tonne of the New Mexico Natural Heritage Program have germinated seeds and are maintaining an artificial poppy garden that will provide material for Action 5.

Role of other ESA programs:
Section 6: Funding has been provided to the New Mexico Division of Forestry in recent years to compile and summarize much of the current knowledge about the poppy.

Section 7: Livestock management in poppy habitats, involving Actions 4 and 7, will continue to be addressed through section 7 consultation. As the most important management opportunity to advance the status of this subspecies, the improvement of livestock management in poppy habitats in terms of fencing and resting of riparian corridors would provide important opportunities for recruitment of poppies. Stocking rates should be adjusted to levels that support healthy riparian systems and sufficient vegetative cover in uplands.

Role of other FWS programs:
Partners for Fish and Wildlife: If funds were available, Partners for Fish and Wildlife could seek to develop agreements with private landowners to enhance or protect poppy habitat and/or reintroduce plants on private property. This may cost approximately $125,000 over the next 5 years, which includes a small amount of funding for Partners' staff. This action item may yield an additional 200 acres of protected plants and/or suitable poppy habitat over the next 5 years.

Additional funding analysis: It will be necessary to conduct more in-depth surveys and searches to establish the presence of existing populations of the poppy, especially on non-Federal lands. The New Mexico Natural Heritage Program has expressed interest in conducting these surveys, which should cover the entire range of the subspecies and should be repeated at least every 3 years. Approximately $75,000 could be used over the next 5 years to conduct surveys on City-owned and private lands within the range of the poppy to locate additional occupied sites to protect and conserve. This could result in significant expansion of the number of known poppy sites, with an estimate of 5 new sites potentially protected by this action.

Within the range of the poppy, there are numerous additional livestock management problems on both Federal and non-Federal lands that could be addressed, such as exclosure fencing and

additional water sources for livestock. Approximately $100,000 could be used over the next 5 years to address these threats within the range of the subspecies, and an estimated 5 additional sites may be protected.

Research on treating the fungal disease affecting poppy plants is necessary to prevent loss of plants to this threat. Approximately $75,000 could be used over the next 5 years to study treatments for this disease, with the goal of curing plants in their natural habitat and expanding the number of surviving poppy plants. This research may expand the number of known poppy plants by approximately 8 percent.

Field Supervisor

8/7/09
Date